Ural Federal University

named after the first President of Russia B.N.Yeltsin

RESEARCH AT URAL FEDERAL UNIVERSITY: INTERNATIONAL COLLABORATION

CONTENTS

Dear colleagues,

The effort to increase the number of international research collaborations is a vital part of UrFU Competitiveness Enhancement Program. The University is the nucleus of a research cluster, in which the International Laboratories and Excellence Centers play an important role. Over the last few years, Ural Federal University has invested in state-of-the-art equipment in order to conduct high quality research. This is one of the reasons why an ever increasing number of scientists chose to come to UrFU.

In order to achieve our goal of becoming a world-class university, UrFU is concentrating its efforts on the development of four key areas: Information Technologies and Human Being in the Information Society; Power Engineering, Resource Saving, and Environmental Management; Flexible Technologies and New Materials; Living Systems and Health.

We hope that in this brochure you will find inspiring projects that will pique your interest and that we will have the pleasure to welcome you at Ural Federal University very soon!

Victor Koksharov,
UrFU Rector

Dear friends and colleagues,

Ural Federal University (UrFU) is one of the 15 universities selected by the Ministry of Education and Science of the Russian Federation to participate in the Russian Academic Excellence Project to maximize the competitive position of a group of leading Russian universities in the global research and education market and to enter into the top 100 of global education ratings. On our path to becoming a world-class university, it is important for us to continue improving our academic reputation.

Increasing the number of international collaborations is the only way to bring greater visibility to UrFU worldwide and to ensure high quality research and education standards. For this purpose international laboratories are being created under the supervision of world-class researchers, recognized leaders in their respective fields of expertise. Many foreign researchers come to UrFU to work on a permanent basis, among them young researchers with an international PhD degree and researchers with experience working in the best laboratories around the world. We are introducing information analysis instruments that are widely used in Europe and participating in consulting projects with leading companies in order to find ways to develop new promising research areas. In addition, the number of important research and innovation projects in collaboration with researchers and research institutions worldwide is steadily growing.

In this brochure we would like to present briefly the above mentioned projects.

Vladimir Kruzhaev,
UrFU Vice-rector for Research

FOUR PRIORITY AREAS

Information Technologies and Human Being in the Information Society

Basis for further development

Power Engineering, Resource Saving, and Environmental Management

Attracts corporate funding

Flexible Technologies and New Materials

Major publication activity source

Living Systems and Health

Long-term investment

12 INTERNATIONAL LABORATORIES HEADED BY WORLD-CLASS RESEARCHERS

Information Technologies and Human Being in the Information Society

Laboratory of Primary Sources Research
Centre for Comparative Studies of Toleration and Recognition
International Demographic Unit
Laboratory of Multi-Scale Mathematical Modeling
Laboratory of International and Regional Economy

Power Engineering, Resource Saving, and Environmental Management

Climate and Environmental Physics Laboratory

Flexible Technologies and New Materials

Nanoscale Ferroelectrics Laboratory (NANOFER)
Research Laboratory of Advanced Low-Dimensional Materials and Nanostructures
Laboratory of Chemical Design of New Multifunctional Oxide Materials
Laboratory of Magnetic Sensors

Living Systems and Health

MIFE – Laboratory for Membrane Transport and Stress Biology Research
Laboratory of Molecular Mechanisms of Morphogenesis

"I enjoy very much working with UrFU's staff devoted to our laboratory. The team is serious and efficient and we work together in a very nice atmosphere. The senior researchers are very professional and our relations are based on confidence, and mutual respect and reciprocal esteem. Regarding the junior members of the laboratory, they show themselves very active and enterprising. In the last months they produced excellent contributions and were all able to present them abroad. I am very proud of them!"

Dr. Marie-Pierre Rey

LABORATORY OF PRIMARY SOURCES RESEARCH

The Laboratory of Primary Sources Research is a research unit at the Institute of Humanities and Arts of Ural Federal University. The laboratory works on the research project titled "Return to Europe: Russian Elites and European Innovations, Norms and Models (18th – early 20th centuries)". The major purpose of the project is the complex study of the process of adaptation of European innovation among Russian elites, both on the central and regional levels. The additional task is to estimate the scale and strength of the Russian influence upon the European countries.

There are 6 working groups that organize the research process:

1. The Formation on New Concepts of State and Society under the Influence of European Norms and Models.
2. The Influence of European Innovations, Patterns and Norms upon the Professional Communities, Science and Education.
3. The Influence of European Patterns and Norms upon the Processes of Secularization and Religion.
4. The Transformations of Elites' Lifestyle under the Influence of European Patterns and Norms.
5. The Influence of European Innovations, Patterns and Norms upon the Administrative Practices and Institutions.
6. Innovations in Technology and Industry: Channels, Mechanisms and Agents of Diffusion and Adaptation.

The laboratory has several operational halls, a zone for collective work, an exhibition center and a conference-hall with 60 people capacity.

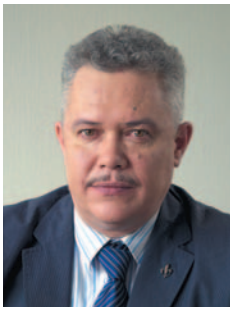
"As soon as I met my UrFU colleagues – historians in February 2012, during the winter school they invited me to, I understood that I would find here, at URFU, not only a high quality group of researchers in terms of academic level and results, but also a cohesive and united team, young and enthusiastic. These are the key aspects that convinced me to become the leader of the new laboratory that we had in mind."

Dr. Marie-Pierre Rey

International Head

Dr. Marie-Pierre Rey
Professor of Russian and Soviet History
Director of the Center of Research
of Slavic History
Director of Institut Pierre Renouvin
University Paris I
(Pantheon-Sorbonne)

UrFU Co-head



Dr. Dmitry Redin
Professor of Russian History
Head of the Department
of Russian History
Institute of Humanities and Arts
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"In the Laboratory we try to study how historically we have and how in the future we should deal with the varieties of religion, of longstanding cultural traditions, of new modern lifestyles. It is vital for Europe and Russia to celebrate our cultural, political and religious riches, but that is not always easy. In the Laboratory we explore what we should do when there are clashes and conflicts. We study what answers have been given in the past to questions such as whether and to what extent we should tolerate, perhaps even accept and celebrate cultural, political and religious views and practices with which we fully disagree. We look at how these questions have troubled and fascinated Europeans and Russians from the days of our church fathers, on to Erasmus, Nicolas of Cusa, on to the days of Grotius and Peter the Great, of Spinoza, Bayle and Locke and of the Enlightenment of Catherina the Great and thinkers like Voltaire and Kant, not to mention the rich history of 19th and 20th-century in Europe, especially in Russia! On these rich legacies we dwell as scholars and citizens when we have to deal, inescapably, with questions of toleration and recognition ourselves."

Dr. Martin van Gelderen

CENTRE FOR COMPARATIVE STUDIES OF TOLERATION AND RECOGNITION

The Centre for Comparative Studies of Toleration and Recognition is an interdisciplinary research unit established in 2014 at the Institute of Social and Political Sciences. Intellectual historians, philosophers, sociologists combine their expertise in studying how multiethnic and mutlireligious communities find their particular models for peaceful coexistence and for resolving conflicts in a non-violent way.

The Centre is headed by Professor Martin van Gelderen, an outstanding specialist in intellectual history. The Centre continues and expands the research focus on tolerance initially developed within the Ural Centre for Advanced Studies and Education (UCASE). The co-director Professor Maxim Khomiakov supervised the UCASE for 15 years and is one of the leading specialists on tolerance in Russia, guides the research activities, which focus on Russian intellectual history.

Currently the Centre runs research projects in cooperation with scholars from University of Goettingen, Utrecht University, University of Keele, and University of Southern Denmark. The Centre encourages its collaborators to pursue interdisciplinary research ranging from empirical research of practices and patterns of tolerant social interaction in multiethnic families, educational institutions, and urban spaces, to conceptualizations of tolerance and justice in Russian political parties' manifestoes, confessional "social doctrines", and political philosophical discourses. In 2014, the Centre's collaborators have presented their research at 16 international conferences, published 11 articles and have been awarded 4 research grants from international foundations. In 2015, the Centre's collaborators will organize three international conferences and plan to publish a collective monograph on arguments for tolerance in European and Russian philosophical writings.

"We are scholars from the social and human sciences and we work on historical and philosophical questions. Our main tools include workshops, intensive brainstorming sessions, international conferences and modern means of communications. For our research output, we appreciate books, monographs and journal articles, but we also recognize that modern media and society require new venues for our research output, from website and blog to film and video."

Dr. Martin van Gelderen

International Head

Dr. Martin van Gelderen
Professor for European Intellectual History
Director of Lichtenberg Kolleg
University of Goettingen

UrFU Co-head

Dr. Maksim Khomyakov
Director of the Institute of Social and Political Sciences
Vice-rector for International Affairs

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What exactly convinced you to become the head of a laboratory at Ural Federal University?
"The opportunity to perform research in historical demography at the cross-roads between Europe and Asia."

Which expert skills of UrFU's staff and which technical characteristics of the laboratory do you rely on to conduct your research?
"The combination of expertise on a number of social history and demography topics with insight into nominative source materials, especially the church records."

Dr. Gunnar Thorvaldsen

INTERNATIONAL DEMOGRAPHIC UNIT

The laboratory aims to create a high performance research system based on close cooperation with world centers on demography (Norway, Sweden, USA, Germany), as well as on research and methodological development in demographic studies at the global level. The laboratory activities will be developed within the framework of the research project «Regional Societies as demographic transitions: East–West». It is based on modern information technology resources, namely databases for multidisciplinary use. Both theoretical and applied research tasks will ensure the stable development of demographic and population-related research, relevant also in the fields of economics, medicine, migration and the social sciences more generally. New workshops on demography will be organized, oriented towards comparative research with the world's leading centers in the field of population studies.

Russian archives hold a host of nominative source materials (church records, taxation lists, some census manuscripts) which in comparison with other nations has so far been little used for demographic research. These can now be opened up with methods which are becoming widely available internationally due to the affordability and user-friendliness of modern computers and software. The project focuses on conducting comparative studies in the following areas:

- **Regional models of vital events in Eurasia in the late 19th–21st centuries.**
  Research coordinator – Prof. Dr. Elena Glavatskaya.
- **The study of family history in selected regions of Russia and Europe in the late 19th–21st centuries.**
  Research coordinator – Dr. Ljudmila Mazur.
- **A comparative study of migration processes and communities in selected regions of Russia and abroad in the late 19th–21st centuries.**
  Research coordinator – Prof. Dr. Oleg Gorbachev.
- **The formation of an integrated information resource (e-document archive + database) on historical and demographic materials with online access.**
  Research coordinator – Candidate Julia Borovik; IT specialist – Jurii Naumov.

International Head

Dr. Gunnar Thorvaldsen
Professor of History
Director of the Norwegian Historical Data Center
Tromso University

UrFU Co-head

Dr. Ljudmila Mazur
Head of the Department of Documentation and Information Maintenance of Management
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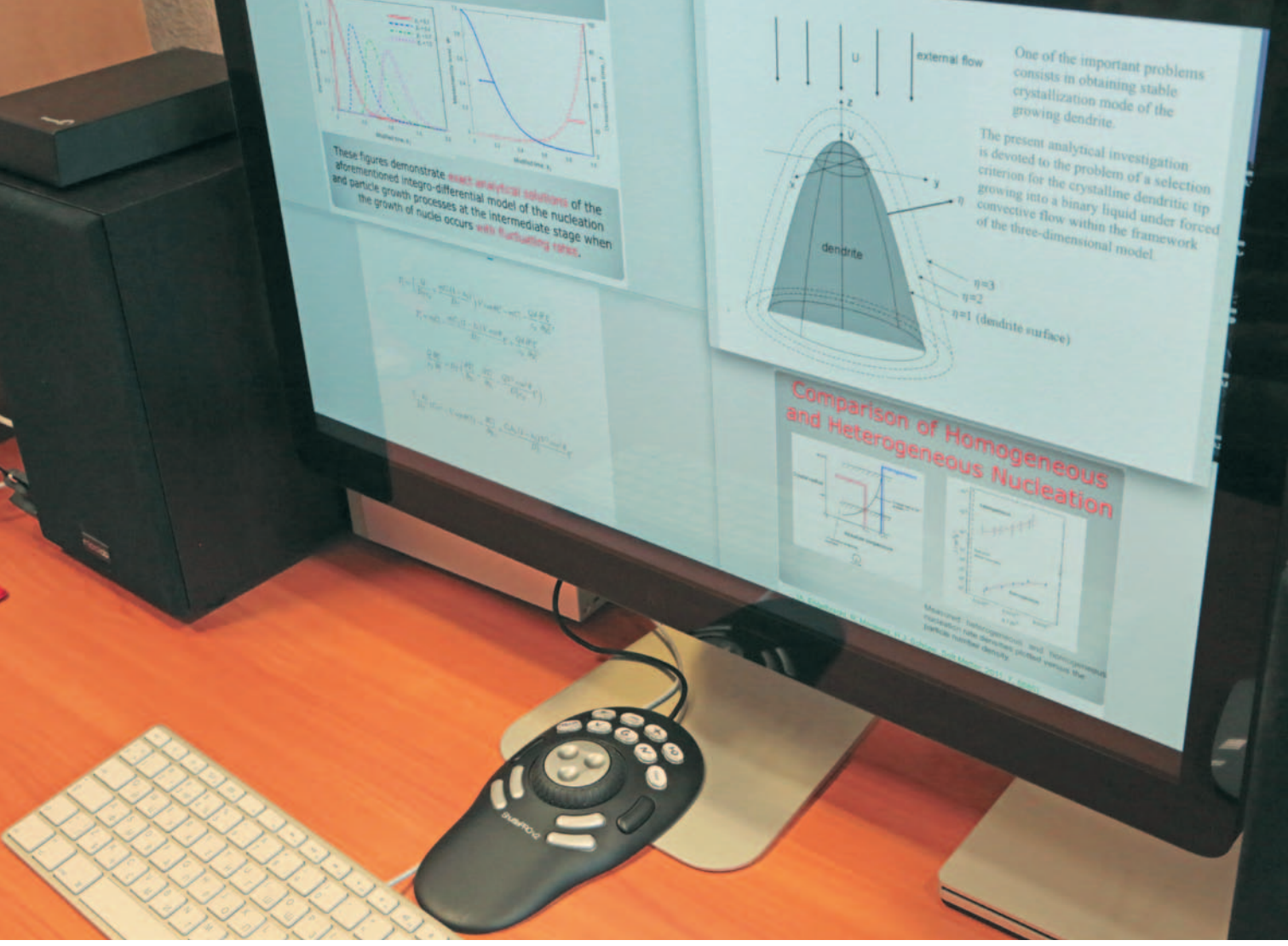

"High-level analytical skills in mathematical physics and numerical skills in programming allow us to solve complex tasks analytically and develop program codes for computational modeling on pattern formation in material physics."

Dr. Peter Galenko

LABORATORY OF MULTI-SCALE MATHEMATICAL MODELING

The Laboratory of Multi-Scale Mathematical Modeling is dedicated to the development of a new research field at UrFU: fundamental and applied research in the field of physical and chemical materials science, geophysics and dynamic meteorology including the development of software packages for the modeling of new materials, structures and processes on different space-time levels through mathematical methods.

In 2014 the laboratory developed unique algorithms for supercomputers that allow parallel calculations of second order differential equations in time and sixth order in space. The developed algorithms and software have been tested and applied to the solution of different tasks of the Laboratory, specifically in the modeling of atomic crystal structures by means of the phase-field crystal method. In 2014, the Laboratory published 14 papers in journals from the Web of Science and Scopus databases, as well as a review article in one of leading Russian journals in the field, Physics-Uspekhi (Advances in Physical Sciences).

"I have a long fruitful collaboration with the staff of the Department of Mathematical Physics. Previously, we were able to conduct our investigations for one- or two-dimensional problems and with narrow range of spatial scales and time intervals. Therefore, with the creation of the Lab of Multiscale Modeling, we are now able to extend our research to analytical and numerical solutions of multiscale problems arising in the physics of condensed and soft materials."

Dr. Peter Galenko

International Head

Dr. Peter Galenko
Professor
Friedrich-Schiller-University Jena

UrFU Co-head

Dr. Dmitry Alexandrov
Professor
Institute of Mathematics and Computer Sciences
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"UrFU is a dynamic university and on a good way to become one of the leading universities of the world. The Laboratory for International and Regional Economics has to support this development, which is an interesting and motivating task for me."

Dr. Hans Michael Wiesmeth

LABORATORY OF INTERNATIONAL AND REGIONAL ECONOMY

The Laboratory for International and Regional Economy was established in 2012. Our research team includes its Academic Head professor Hans Wiesmeth, PhD researchers and assistants. The main research topics are health systems and economy of healthcare, environmental economy and political economy.

Since the foundation of the Laboratory more than 40 scientific events with Russian and abroad researchers have been organized including seminars, workshops, joint sessions with the Center for the Study of Diversity and Social Interactions of the New Economic School (Moscow) and lectures for students and professors of UrFU.

The results of our research have been published in more than 15 papers in Russian and international journals. The members of our Laboratory make more than 5 reports at international conferences every year. In the near future our team will continue publishing discussion papers, organizing international workshop, lectures and seminars at the Annual International Scientific Conference on Economic Development in the Modern World at UrFU Graduate School of Economics and Management.

"My research work at UrFU depends substantially on the cooperation with the colleagues in the laboratory, but increasingly also on contacts to other professors and researchers at UrFU Graduate School of Economics and Management. The electronic access to libraries, which I am granted through the laboratory, is of utmost importance for me to conduct research."

Dr. Hans Michael Wiesmeth

International Head

Dr. Hans Michael Wiesmeth
Professor of Economics
Technical University Dresden

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Dr. Dmitry Tolmachev
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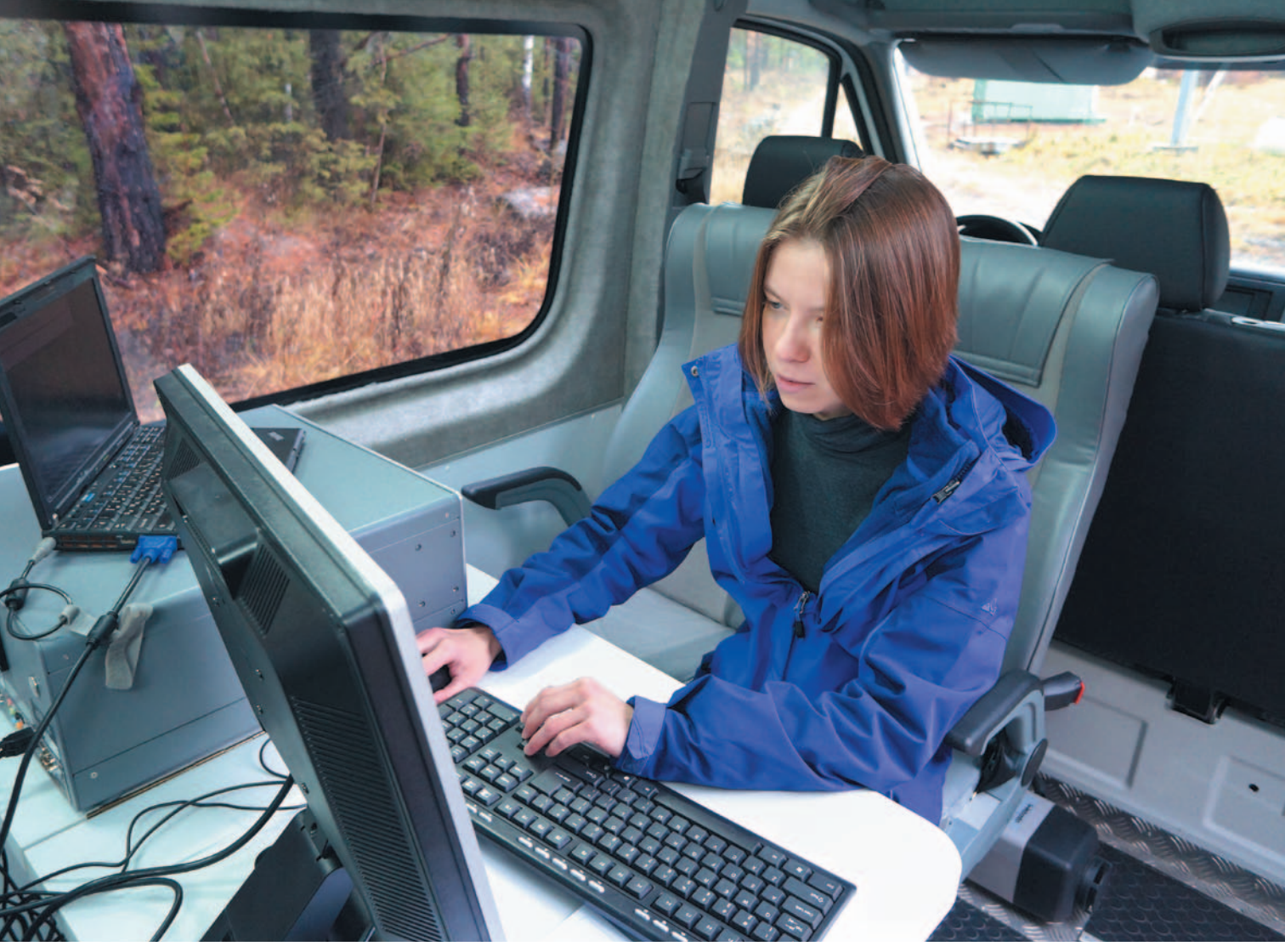

"My UrFU colleagues have expertise not only in the use of satellite data but also in FTIR spectrometry, both of which can provide information on water isotopes in the atmosphere. The deployment of PICARRO instruments, which allow continuous isotopic measurements in water vapor, has been facilitated by the easy access to the Kourovka and Labytnangy observatories. The staff has also acquired expertise in modeling water isotopes in the atmosphere. This combination of observations from various approaches and modelling is key to our project."

Dr. Jean Jouzel

CLIMATE AND ENVIRONMENTAL PHYSICS LABORATORY

The objective of the Climate and Environmental Physics Laboratory is the validation of selected atmospheric general circulation models (AGCM) with embedded water isotopologues to adapt these models for the prediction of future rainfall and permafrost melting dynamics in Western Siberia. The forecast can be used by policy makers to plan the future economic development of this region.

The Laboratory maintains two unique observation sites and a mobile laboratory. The Urals Atmospheric Fourier Station in Kourovka Astronomical Observatory is used both for remote sensing of the atmosphere to validate satellite observations and in situ measurements of water isotopologues and greenhouse gases in the lower atmospheric layer. The second station measures water isotopologues in the lower atmospheric layer located in Labytnangi (permafrost area). Both observation sites are equipped with automatic weather stations, collect daily precipitation samples and are remotely controlled via Internet by laboratory staff.

So far the Laboratory has obtained and processed atmospheric sounding data for target regions collected by satellite and ground-based Fourier transform infrared spectrometers, as well as data on isotopic composition of water vapor in the atmosphere and precipitations at the locations of both observation sites. A database containing all measurements on water isotopologue composition including soil vertical profiles for the period 2012–2014 is being compiled. It can be used for validation of AGCMs with embedded water isotopologues for climate modeling in Western Siberia.

Isotopic modules of supercomputer AGCMs ECHAM5 wiso and LMDZ-iso were validated for the territory of Western Siberia for the first time. A new ORCHIDEE physical, mathematical and programming module has been developed and tested for the description of heat exchange in the atmosphere-surface system of the LMDZ-iso AGCM.

In 2015–2016 we plan to establish a new atmospheric station near the Polar circle in Igarka and to perform a series of experiments on carbon greenhouse gases sensing at the Atmospheric Fourier Station in Kourovka Astronomical Observatory simultaneously with the measurements of the Japanese GOSAT satellite for validation of satellite data.

International Head

Dr. Jean Jouzel
Director of research Laboratoire
des Sciences du Climat
et de l'Environnement
Institut Pierre Simon Laplace

UrFU Co-head

Dr. Vyacheslav Zakharov
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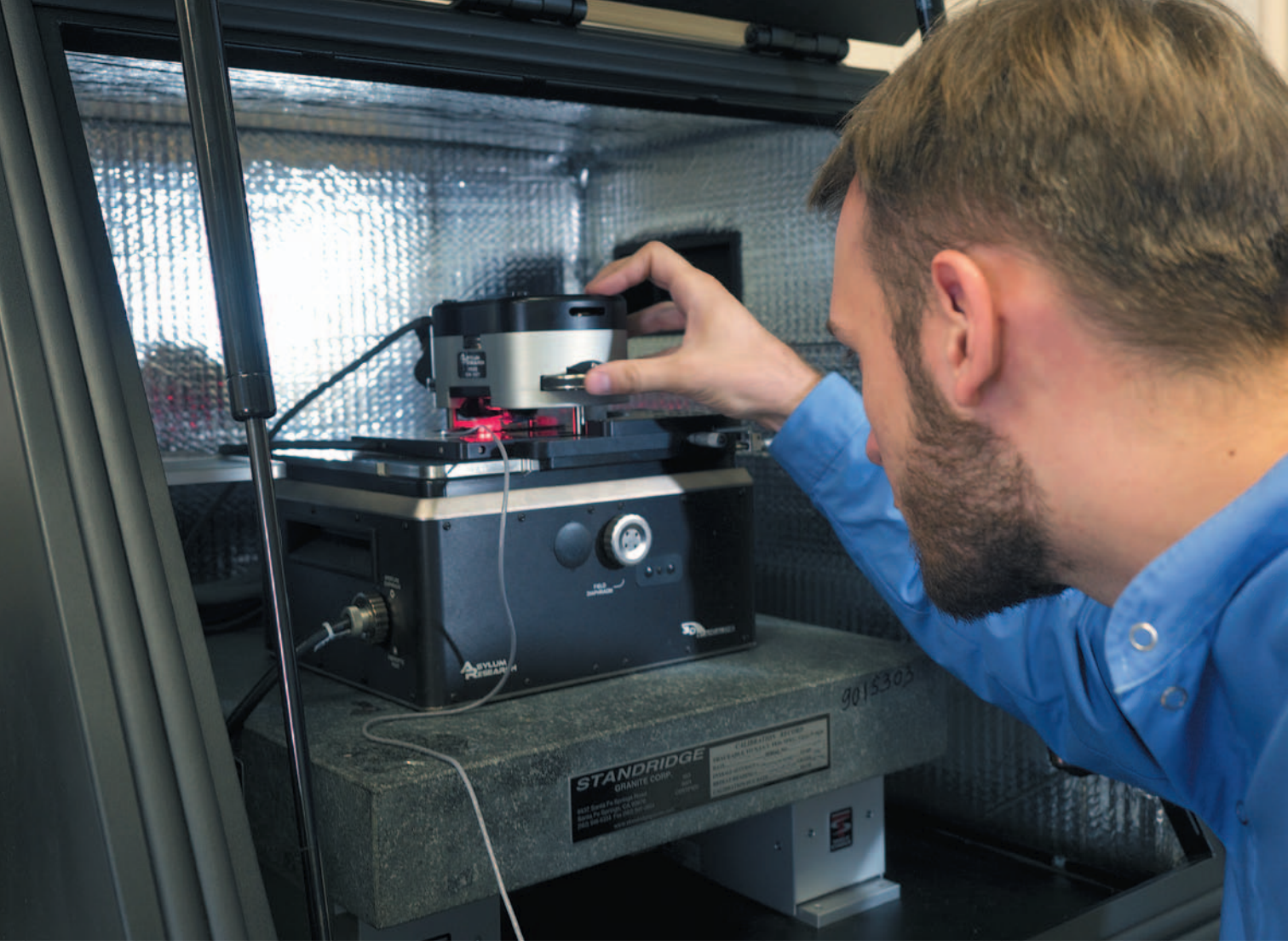


"I was very much impressed with the technical skills of UrFU staff such as deep mathematical background, excellent programming capabilities, and general understanding of ferroelectric phenomena. Not to mention the state-of-art equipment, such as lithography, focused ion beam etching, etc. The technical staff is always nice and extremely efficient in solving any problems."

Dr. Andrei Kholkin

NANOSCALE FERROELECTRICS LABORATORY (NANOFER)

The NANOFER Laboratory is a subdivision of UrFU Institute of Natural Sciences. It interacts with the ferroelectrics laboratory and the Ural Center for Shared Use "Modern Nanotechnologies" at UrFU. The international head of the laboratory, Andrei Kholkin, is also the head of the Functional Imaging and Nanomaterials Laboratory at the University of Aveiro, Portugal (400 publications, over 4000 citations, h-index – 37). The aim of NANOFER activity is the creation and study of advanced nanostructured ferroelectric and related materials, ion conductors and bio materials and development of visualization methods for of their functional properties.

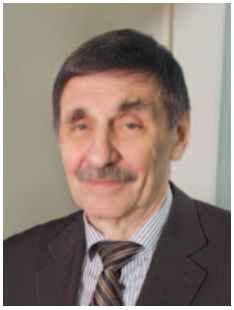
The following results have already been achieved:

- The International Conference "Piezoresponse Force Microscopy and Nanoscale Phenomena in Polar Materials" (PFM-2014) and the International Youth Conference "Functional Imaging of Nanomaterials" were held in Ekaterinburg with the participation of leading international scientists from 18 countries.
- UrFU was included as an associate partner in the international project NANOMOTION (Nanoelectromechanical motion in functional materials), funded by the EU under the European Framework Program FP7.
- NANOFER members have won grants of the Russian Science Foundation, OPTEK, and the President of the Russian Federation.
- Scientists from the University of Minho (Portugal), University College Dublin (Ireland), and the University of Duisburg-Essen (Germany) have visited the laboratory.
- In turn, NANOFER members underwent training at the University of Washington (USA), Oak Ridge National Laboratory (USA), University of Aveiro (Portugal), and the University of Duisburg-Essen (Germany).
- A set of electronic educational courses "Functional imaging using scanning probe microscopy" was developed.

International Head

Dr. Andrei Kholkin
Head of Functional Imaging and Nanomaterials Laboratory of CICECO
University of Aveiro

UrFU Co-head



Dr. Vladimir Shur
Principal researcher and Professor
Director of Ural Center for Shared Use "Modern Nanotechnologies"
Institute of Natural Sciences
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"A big common denominator between our research interests is to explore complex microstructures for realizing new materials processing, analysis techniques/methods and functionality (properties) of strategic relevance. This includes gradient materials, bent lattice, rotating lattices, interface-rich structures. I was professionally impressed from seeing the research ambitions and both the standard and the potential of the Lab."

Dr. Lars Gustav Hultman

RESEARCH LABORATORY OF ADVANCED LOW-DIMENSIONAL MATERIALS AND NANOSTRUCTURES

The Research Laboratory of Advanced Low-Dimensional Materials and Nanostructures (NANOCRYSTAL) has been recently formed at UrFU Institute of Natural Sciences.

The scientific Leader of the new Laboratory Lars Hultman is the Head of the Division of Thin Film Physics at Linköping University, and also CEO of The Swedish Foundation for Strategic Research. Lars Hultman is ISI most cited researcher in Materials Science (600+ scientific publications, 15000+ citations; h-index 63).

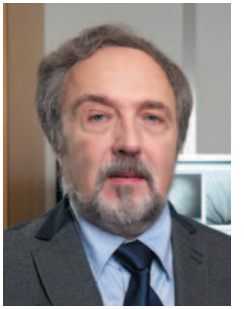
The new Laboratory aims to significantly expand the materials and nano science research at UrFU Institute of Natural Sciences with capabilities to fabricate and characterize advanced materials with designed unique structures for nanotechnology and different applications. In addition to the spectrum of microscopy techniques that we will make available, we shall focus our research studies on advanced nano scale materials and processes where we have leading expertise, including thin film/layers, self-organizing materials, fullerene-like solid structures, transrotational thin crystals and bent-lattice nanostructures. We aim to generate synergy of materials studied and specialists involved at UrFU that represent physics, materials science, chemistry, and nanotechnology. Target classes of materials are phase-change materials, functional materials, oxides and chalcogenides, molecular crystals, rapidly quenched alloys, intercalation materials, magnetic films, thin catalytic layers, nano- belts/rods/filaments and more.

The initial activity is focused on the transmission electron microscopy (TEM). Our research results have been presented at 6 conferences and 5 papers have already been published.

International Head

Dr. Lars Gustav Hultman
Professor of Thin Film Physics
Head of the Division of Thin Film Physics
Linköping University;
CEO of The Swedish Foundation for Strategic Research;
Member of the Royal Swedish Academy of Sciences

UrFU Co-head



Dr. Vladimir Kolosov
Professor of Low Temperature Physics
Head of Electron Microscopy Laboratory
Institute of Natural Sciences
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"Cherepanov's group has a great experience of solid state chemistry synthesis and research of phase diagrams in oxides. This knowledge is absolutely necessary for the discovery of new materials. Their ability to control the oxygen stoichiometry in oxides with high accuracy and to characterize these materials simultaneously by X-ray diffraction techniques is of capital importance for understanding their structure and physical properties. Our complementary competence in electron microscopy and physical measurements opens the road to the discovery of new materials with new physical properties."

Dr. Bernard Raveau

LABORATORY OF CHEMICAL DESIGN OF NEW MULTIFUNCTIONAL OXIDE MATERIALS

The main objectives of the laboratory are:

- Formation of the strategy for the synthesis of new multifunctional complex oxides with a set of required target properties.
- Determination of the interconnections such as chemical composition – real (crystal and defect) structure – functional properties.
- Elaboration of theoretical approaches for the description of functional properties of complex oxides, like conductivity, chemical expansion, oxygen permeability based on the chemical composition and structural characteristics.

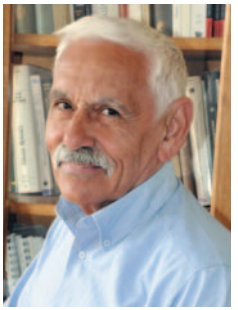
In 2014 new nanoscale ordered quintuple perovskite phase was discovered and characterized with respect to its fine structure, defect structure and electrical and magnetic properties. Two papers in highly ranked international Journals have already been published with the results of our research.

In 2015–2016 we are planning to explore the discovered family of oxides, expand our collaboration and exchange visits especially for young researchers.

"There are several reasons why I decided to become the Head of this Laboratory. The first one is the great potential of the young chemists, researchers in Ekaterinburg who are working under the supervision of V. A. Cherepanov. The second reason is related to the excellent scientific results obtained by this staff in the field of solid state chemistry for which they have been recognized by the international community. The third point concerns the complementarity between their scientific competence and our own knowledge in the field of solid state chemistry and physics, making it a big challenge to set up new directions of research. This collaboration has revealed to be very fruitful this last year with the publication of two papers in high impact international journals (index > 6) in common between Ekaterinburg and Caen."

Dr. Bernard Raveau

International Head



Dr. Bernard Raveau
Professor Emeritus
University of Caen

UrFU Co-head

Dr. Vladimir Cherepanov
Principal Investigator and Head
of the Physical Chemistry Department
Institute of Natural Sciences
v.a.cherepanov@urfu.ru

"The reason for my agreement to become the head of the Laboratory relates on the one hand to the outstanding basic formation in Magnetism of the staff and scientific personnel at URFU, part of which is the long history of magnetism in Yekaterinburg. The second point is the extraordinary interest of the young scientists that I could appreciate first-hand during my presentations and discussions with them in my recent visits. I also have to mention the kindest hospitality shown by everyone during such visits."

Dr. Manuel Vazquez Villalabeitia

LABORATORY OF MAGNETIC SENSORS

The aim of the Laboratory of Magnetic Sensors is to become a world-class center for the development of new magnetic materials and effective functional transducers on their basis.

Under the supervision of Professor Vazquez, research is being conducted among others, on the following topics:

- Development of physical and chemical basis of synthesis technologies of new composite and film materials for sensor technologies.
- Magnetodynamics of nanostructured materials with high magnetic permeability: giant magnetoimpedance, ferromagnetic resonance, nonresonant magnetoabsorption.
- Functional polymer/magnetic nanoparticles composites (in collaboration with the Institute of Electrophysics of the Ural Branch of the Russian Academy of Sciences).
- Flexible magnetoelectronics.
- Magnetic nanoparticles for biological applications and magnetic biosensing.
- Film structure with exchange bias.
- Anodic alumina membranes with ordered pores.

The Laboratory is well equipped, including specific sample preparation equipment and different magnetometry characterization techniques. A big effort is being made to renovate some of the experimental facilities, including a new Kerr effect magnetometer or microwaves techniques.

Some of the research results obtained in the Laboratory have already been published in journals from the Web of Science and Scopus databases.

In 2015 you will have the chance to meet the members of the Laboratory at the following conferences:

- International Conference on Magnetism 2015 in Barcelona.
- International Baltic Conference on Magnetism 2015 in Kaliningrad.
- XXV Russian Young Scientists Conference "Problems of Theoretical and Experimental Chemistry" 2015 Ekaterinburg.
- 22nd International Symposium on Metastable, Amorphous and Nanostructured Materials in Paris.

International Head

Dr. Manuel Vazquez Villalabeitia
Professor of Research at the Institute of Materials Science of Madrid from the Spanish National Council for Research

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Dr. Vladimir Vas'kovskiy
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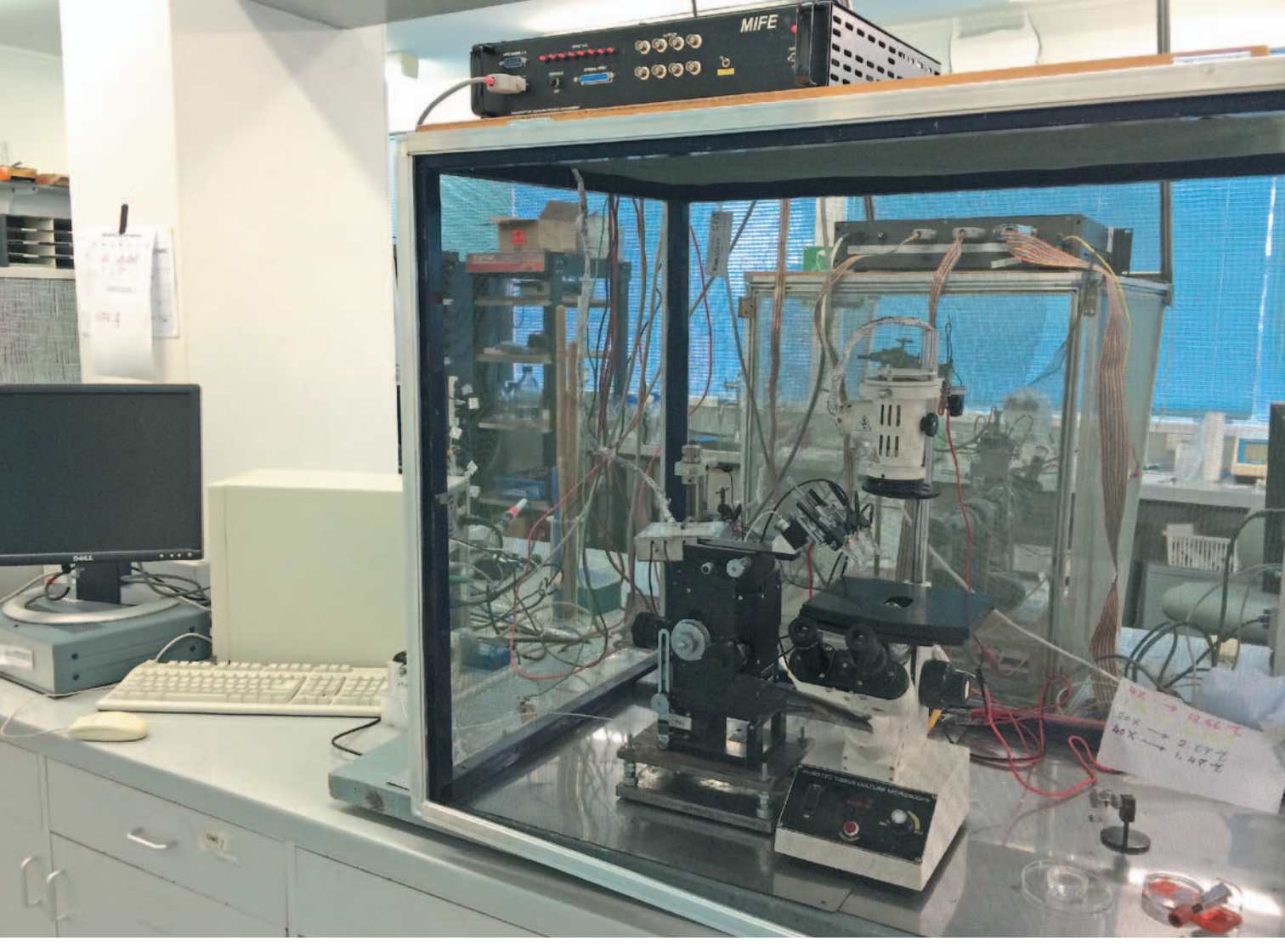


"My UrFU colleagues have ample expertise in plant physiology and, specifically, in the field of oxidative stress signalling and tolerance (where my own strengths are). Our skills and expertise are highly complementary and, thus, will undoubtedly benefit the field."

Dr. Sergey Shabala

MIFE – LABORATORY FOR MEMBRANE TRANSPORT AND STRESS BIOLOGY RESEARCH

For the first time in Russia, a MIFE-technology-based electrophysiological laboratory is created at UrFU for the broad use in biological, environmental and biotechnology research, opening the possibility of its further application in biomedical research.

The creation of a new electrophysiological laboratory and its fitting with equipment that enables non-invasive measurement of transmembrane ion fluxes (the MIFE-technology) is an ambitious project led by professor Sergey Shabala (current H-index = 46).

The MIFE-laboratory studies the role of transmembrane ion fluxes in plant adaptation to oxidative stress induced by different stressors, including heavy metals; identifying key membrane transporters mediating ROS signaling and plant resistance. It will also be involved in projects on screening terrestrial and aquatic species from the habitats with different level of toxic load to identify genotypes resistant to stressors using MIFE-technology.

At least 10 specialists in the field of MIFE-technology will be trained through graduate studies, training courses and internships.

"When I was doing my PhD in plant electrophysiology in mid-80ies, the Ural State University was one of the leading institutions in the field at that time, so I used some papers produced by University researchers as a "blueprint" for my own work. Now I am very happy to have an opportunity to "resurrect" these traditions and bring membrane transport biology research at UrFU to its former glory, using modern technology platforms and my own expertise and intensive international collaborations."

Dr. Sergey Shabala

International Head

Dr. Sergey Shabala
Professor in Plant Physiology
Stress Physiology Research Group Leader
Co-Director Australia-China Research Centre for Plant Stress Biology
University of Tasmania

UrFU Co-head

Dr. Irina Kiseleva
Head of the Department of Plant Physiology and Biochemistry
Institute of Natural Sciences
irina.kiseleva@urfu.ru

"In order to become a leading research center UrFU is currently undergoing a tremendous transformation. However, most of the challenges still lay ahead. But challenges also bring opportunities. I was born and raised in Ekaterinburg, and as a high school student, I used to come to UrFU for extracurricular biology classes. So setting up a molecular biology Lab at UrFU has a distinct scent of "homecoming." I am happy to bring to UrFU some practical knowledge of modern research organization to help advancing and re-shaping biological sciences at the University."

Dr. Alex Kinev

LABORATORY OF MOLECULAR MECHANISMS OF MORPHOGENESIS

The main goal of the Laboratory of Molecular Mechanisms of Morphogenesis consists in analyzing effects of complex environmental pollution on progenitor cells in animal and human populations living in highly transformed urban areas. The laboratory includes a biobank (cryostorage), research facility and an educational module.

The Laboratory has started collecting biological materials, tissue and intestinal microbiom samples of juvenile moor frogs from populations inhabiting territories with different degrees of environmental pollution and urbanization. Based on the level of anthropogenic transformation, the urban territory is divided into five highly mosaic zones characterized by vegetation, temperature, and a distinctive water pollution profile. The samples are being analyzed in the US for the complete genome sequencing of the moor frog and its microbiome that will be the basis for further research. The results of the first phase of the project have been presented at the ESBB Annual Meeting and in an article published in Scientific Data. In 2015 you will have the opportunity to meet members of the Laboratory at the International Society for Biological and Environmental Repositories 2015 Annual Meeting & Exhibits in Phoenix (USA).

"I am collaborating with the Zoology Chair Prof. Vladimir Vershinin, who is a world-renowned expert in teratology. Dr. Vershinin is a dedicated scientist, whose research is aimed to elucidate the effects of urbanization on amphibian species and, in a wider context, to understand mechanisms underlying morphological changes in evolution. Together we study molecular mechanisms of response to environmental stressors. The expertise of Dr. Vershinin and his colleagues will have a significant impact on the research program we are currently unfolding at UrFU."

Dr. Alex Kinev

International Head

Dr. Alex Kinev
President of Creative Scientist Inc.

UrFU Co-head

Dr. Vladimir Vershinin
Head of the Department of Zoology
Institute of National Sciences
vladimir.vershinin@urfu.ru

STRATEGIC PLAN OF RESEARCH OUTPUT DEVELOPMENT FOR URAL FEDERAL UNIVERSITY

THOMSON REUTERS

Ural Federal University

URAL BRANCH OF THE RUSSIAN ACADEMY OF SCIENCES

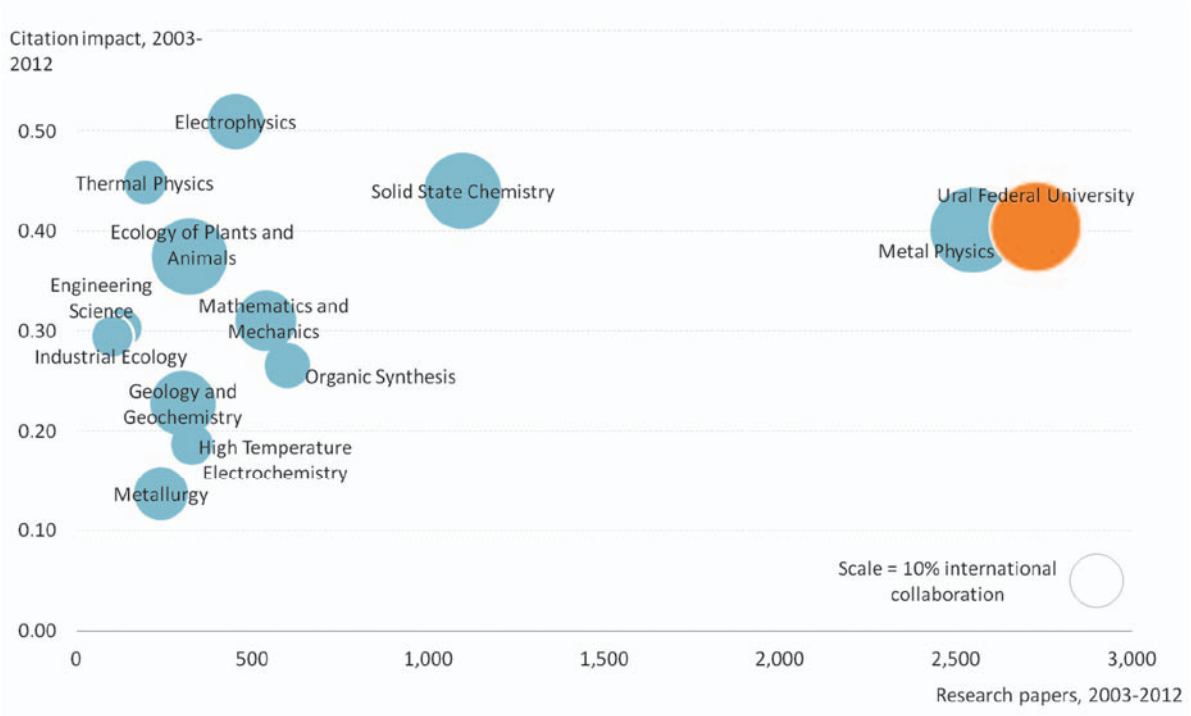
The collaboration between Thomson Reuters, Ural Federal University (UrFU), and the Ural Branch of the Russian Academy of Sciences (UB RAS) is focused on diagnosing research performance using world-leading Thomson Reuters scientific publication and patent information to enhance the local, regional, and global impact of research originating from UrFU and UB RAS. Thomson Reuters are providing targeted practical recommendations for UrFU and UB RAS to incorporate into ongoing strategic research roadmaps, including the state-sponsored 5/100 program for which UrFU was selected in 2013.

In Phase 1 of the partnership, Thomson Reuters benchmarked research at UrFU and UB RAS against selected domestic and international comparator institutions across broad research disciplines. Based on these outputs, UrFU and UB RAS selected the Materials Science discipline for deeper diagnostic analysis in Phase 2. Thomson Reuters, UrFU, and UB RAS worked together closely to define the relevant sphere of Materials Science research, and to carefully select the correct publication and patent data for analysis. More than 660 000 publications and 170 000 patent families were analyzed. Based on initial findings, 10 research topics were distilled further to 5 research topics, which were analyzed in great detail to identify research strengths and opportunities for UrFU and UB RAS. A team of Thomson Reuters research performance and commercialization experts interpreted these findings to

provide a defined set of practical and actionable recommendations for UrFU and UB RAS.

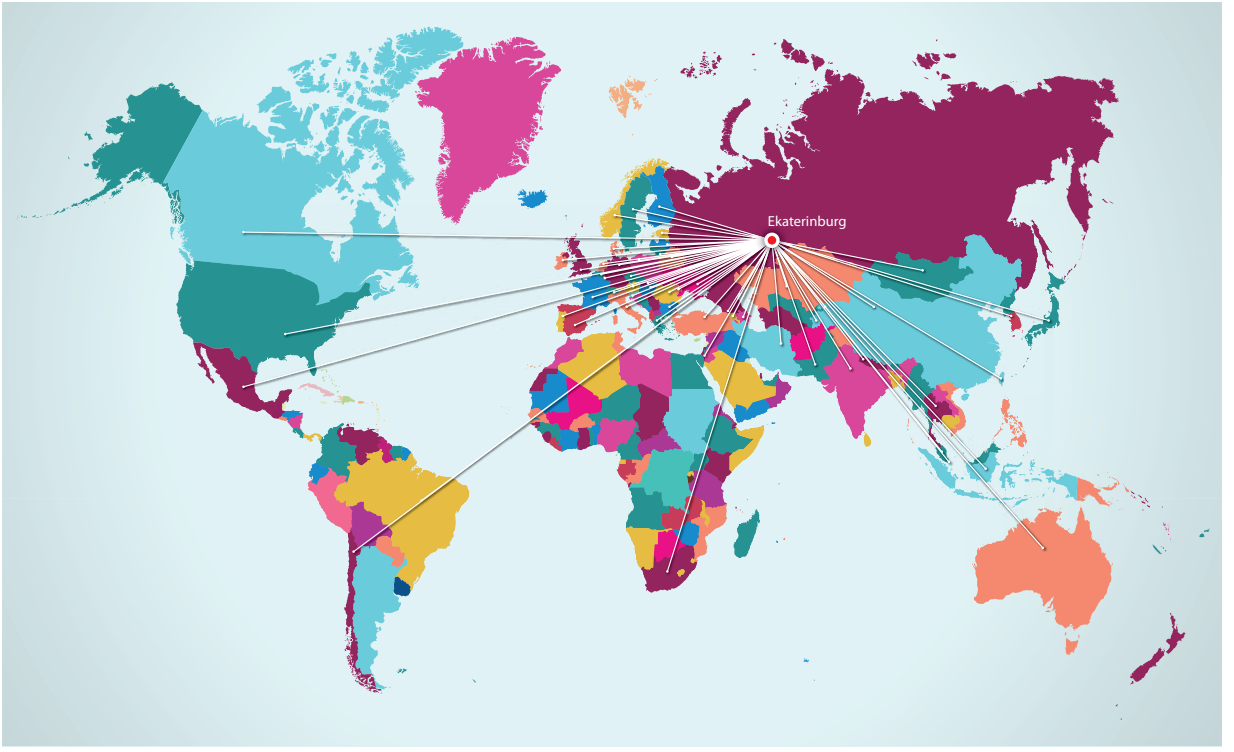
Thomson Reuters analysis identified that, while UrFU and UB RAS have traditional strengths in disciplines such as metallurgy and power engineering, significant opportunities exist to expand into areas of burgeoning capability such as optoelectronics and semiconductors, magnetic materials, and nano-structured materials. Thomson Reuters provided UrFU and UB RAS with a set of wide-ranging initiatives to explore in order to realize this potential, from institution-wide change management recommendations, to details of specific attractive collaborators and commercial partners. UrFU and UB RAS are well placed, both from a capabilities perspective and geographically, to establish a gateway between East and West in Materials Science, maintaining existing relationships with European and American researchers while capitalizing on the rapid growth being seen in emerging Asian knowledge economies. UrFU and UB RAS will build action plans based on the recommendations in order to realize the ultimate vision: to be amongst the world's leading Materials Science research and education centers.

Summary of research output and performance of UrFU and selected UB RAS institutes, 2003-12



Source: Report for Ural Federal University and the Ural Branch of the Russian Academy of Sciences. Thomson Reuters

INTERNATIONAL COLLABORATION MAP



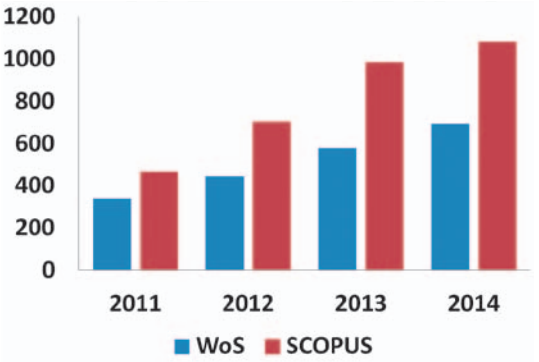
1. Armenia
2. Australia
3. Austria
4. Azerbaijan
5. Belarus
6. Belgium
7. Brazil
8. Bulgaria
9. Canada
10. Chile
11. People's Republic of China
12. Czech Republic
13. Denmark
14. Estonia
15. Finland
16. France
17. Georgia
18. Germany
19. Greece
20. Hungary
21. India
22. Indonesia
23. Iran
24. Ireland
25. Israel
26. Italy
27. Japan
28. Kazakhstan
29. Kyrgyzstan
30. Latvia
31. Lithuania
32. Luxembourg
33. Malasyia
34. Mexico
35. Moldova
36. Mongolia
37. Nepal
38. Norway
39. Pakistan
40. Poland
41. Portugal
42. Romania
43. Singapore
44. Slovakia
45. Slovenia
46. South Africa
47. Republic of Korea
48. Spain
49. Sweden
50. Switzerland
51. Taiwan
52. Tajikistan
53. Thailand
54. The Netherlands
55. Turkey
56. Ukraine
57. United Kingdom
58. USA

INTERNATIONAL COLLABORATION PUBLICATIONS

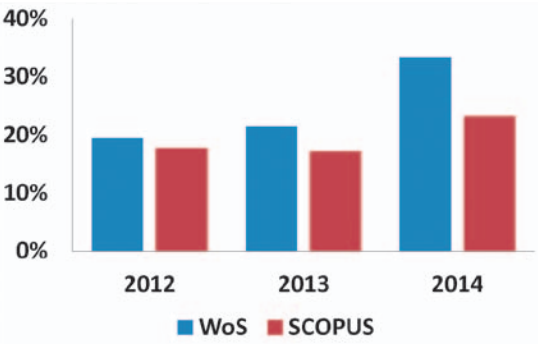
The number of publications of Ural Federal University is steadily growing. In the last four years the publications in journals indexed in international research databases has grown more than 2.5 times. In order to also improve the quality of our publications we are focusing the following indicators:

- Number of publications in the most cited international journals.
- Number of citations of UrFU publications.
- Number of publications co-authored with international colleagues.

Publications in WoS and SCOPUS (2011–2014)



Percentage Growth of International Collaboration Publications in WoS and SCOPUS (2012–2014)



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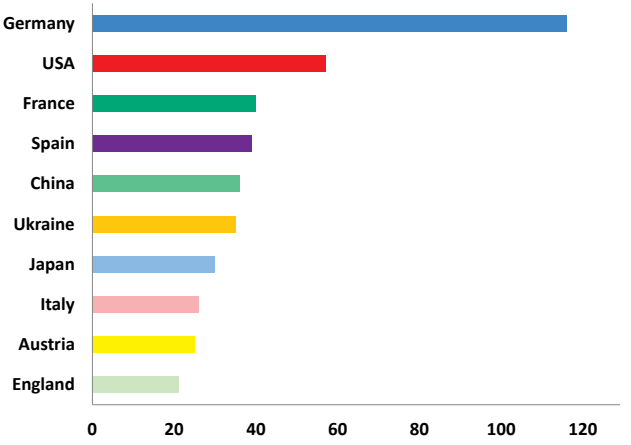
TOP10 Countries Our Researchers Collaborate with (number of publications, 2012–2014)



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EXPERIMENTAL IMMUNOPHYSIOLOGY AND IMMUNOCHEMISTRY

Professor **Rolf Zinkernagel** is the Co-Head of the Key Center of Excellence "Experimental immunophysiology and immunochemistry". Prof. Zinkernagel is a Swiss expert immunologist and 1996 Nobel Prize Laureate in Physiology or Medicine together with Peter C. Doherty for discoveries concerning the specificity of the cell mediated immune defense.

The Key Center of Excellence "Experimental immunophysiology and immunochemistry" deals with the fundamental and applied tasks in the field of modern immunology in the following scientific areas: anti-infectious immunity, development of innovative vaccines; synthesis of novel organic compounds possessing potential immunotropic activity, study of their properties and design of new immunodiagnostic methods; development of approaches for the oxidative stress diagnostics in immunopathology; mathematical modeling of the infectious diseases dynamics and the multicomponent therapeutic interventions; development of new methods for regenerative processes control at normal and pathological conditions; tissue culture application for estimation of the effectiveness of nanoparticles acting purposefully upon immune cells; study of cytokine network as immunological mechanisms of systemic inflammation pathogenesis; population molecular genetic analysis of immunopathology, among others.

CENTER FOR FIRST-PRINCIPLES MODELLING OF ADVANCED MATERIALS

Mikhail Katsnelson is one of the leading and most active scientists participating in the research carried out at UrFU Key Center of Excellence "Center for First-principles Modelling of Advanced Materials". He is a Professor at the Radboud University of Nijmegen, the Netherlands, as well as the Laureate of the 2013 Spinoza Prize and graduate of the Ural State university. His H-index is 67 and in 2014 the Center published 7 articles with his participation.

There are two recent publications that have received ample attention from international researchers in the field of condensed matter physics. The first was published in Nature Physics and develops new experimental and theoretical methods to study the properties of antiferromagnetic materials with weak ferromagnetism. The article has also been published in the European Synchrotron Radiation Facility (ESRF highlights 2014). The second article, published in Physical Review B, dedicated to the modelling of molecular magnet Mn_{12}, has become one of the scientific breakthroughs of the year in the field of nanotechnology according to nanotechweb.org.

LABORATORY OF COMMUNICATIVE PHILOLOGY

Arto Mustajoki is the Co-Head of UrFU research group "Laboratory of Communicative Philology". Originally from Finland, Dr. Mustajoki is a Russian Studies expert, professor of Russian language and literature at the University of Helsinki and Vice-President of the International Association of Teachers of Russian Language and Literature.

Dr. Mustajoki has been working with our researchers since 1988. His latest article was published in 2014 in the new journal of the Institute of Humanities and Arts "Quaestio Rossica". Members of the Department of Russian Rhetoric and Stylistics often publish articles in the journal "Slavica Helsingiensia" of the Department of Modern Languages of the University of Helsinki. In 2006 Prof. I. T. Vepreva won a grant of the Finnish Academy of Sciences and, as a result of her collaboration with Dr. Mustajoki, two articles were published.

In October 2013 Dr. Mustajoki visited Ural Federal University. He consulted master and doctoral students on the preparation of publications for international scientific journals.

MATHEMATICAL MODELLING AND COMPUTER SIMULATION OF MAGNETIC FLUIDS AND MAGNETIC COMPOSITES

Philip James Camp received his PhD in Physics from the H. H. Wills Physics Laboratory, University of Bristol. He is currently a Senior Lecturer in Physical Chemistry at the University of Edinburgh School of Chemistry. His area of research is the development and application of computer simulation methods and statistical mechanics to study dense materials such as liquids, solids, and colloidal suspensions.

Dr. Camp's recent studies include:

- the thermodynamics and magnetic properties of ferrofluids;
- the processes of polymeric self-assembly and deposition on surfaces driven by solvent evaporation;
- the adsorption of surfactants on colloidal surfaces;
- kinetic friction in lubricated systems;
- the structure, dynamics, and phase behavior of ionic fluids;
- the design and characterization of nanoscale drug-delivery devices;
- biomineralisation in diatoms.

To this day Dr. Camp has 6 Scopus journal joint publications with researchers from UrFU.

INNER MONGOLIA UNIVERSITY

In October 2014 the Inner Mongolia University, People's Republic of China, and Ural Federal University signed a cooperation agreement. The main cooperation areas include:

- **Scientific research:** new approaches for effective research projects in the field of fundamental, social, scientific and technical knowledge; organization of a scientific and technical contact network and scientific exchange. Among the research topics for joint projects are: rare earth-based catalytic nanomaterials; synthesis and property of Rare earth magnetic and optical multifunctional nanoparticles; development and industrialization of rare earth functional materials-rare earth environmental protection paint; basic research on application of High-performance and High-value polyolefin materials; synthesis and liquid crystal property of ferrocene modified porphyrins and their metal complex.
- **Education:** academic exchange, including bachelor, master and doctoral students and teaching staff; Chinese and Russian language courses; summer schools; seminars on language and culture.
- **Innovation:** ensuring an effective dialogue on innovation topics between UrFU and IMU researchers; creation of business societies for the modernization of the industrial and agricultural sectors; realization of state policies in the field of socio-economic development of bordering territories; stimulation of private investments and international cooperation.

One of the objectives of the cooperation between both universities is the creation of a university network of innovation ecosystems, which will allow to quickly create and launch innovation projects, based on the mobility, combined use of resources and possibilities of all the parties, creation of international teams and mutual support in the national and international services and high-tech markets.

With the support and collaboration of the Government of Inner Mongolia we are currently working on the final version of an extended cooperation program with IMU, that will be signed during the visit of the IMU delegation to INNOPROM 2015.

FANUC

Ural Federal University continues to contribute to the solution of problems of the real sector of the Ural economy. An important step in this direction will be the partnership with the world's leading manufacturer of equipment for industrial automation, the company "FANUC". An agreement was signed on February 10 by the Rector of Ural Federal University, Victor Koksharov, and CEO of "FANUC", Marco Delaini.

The agreement includes joint training of specialists for high-tech industries, development and deployment of robotic "FANUC" equipment at industrial enterprises of the real sector of the economy of the Urals Federal District. In addition, joint activities will be conducted in order to train highly qualified personnel.

Currently, UrFU has started the implementation of the project on the introduction of robotic equipment for automation of hazardous manufacturing operations in Nizhny Tagil Institute of Metal Testing. In particular, according to the consignment contract, the company "FANUC" will provide a M20IA20M robot for a period of one year. In February 2015, 2 persons from UrFU and Nizhny Tagil Institute of Metal Testing will undergo free training in the company. According to the agreement signed in Nizhny Tagil, UrFU in collaboration with "FANUC" will establish a testing laboratory as part of a scientific and educational center based in UrFU Institute of Mechanical Engineering.

MODEL LEAN MANUFACTURING PLANT

In cooperation with McKinsey and United Heavy Machinery Plants Ural Federal University is working on the first Model Lean Manufacturing Plant in Russia. It is the only educational center of this type from Eastern Europe to the Pacific Ocean and as such it will offer:

- Training courses for supervisors and specialists of industrial plants and companies that offer different kinds of services (banks, procurement and sales departments).
- Seminars with students in the last years of their degree.

The production process and rendering of services is simulated in the model plant under close to real life conditions. This applied method of education results in a more efficient transmission of skills and methods of lean manufacturing, which enhance the effectiveness of production and management processes, as well as productivity.

According to data supplied by McKinsey, training in such a plant allows to reduce the required industrial space and the labor costs of manufacturing one component by about a third. In addition, yearly production can be increased by over 40 % and the production plan by nearly 60 %. Practical training not only develops strong professional skills for effective management, but also a positive attitude of the production management and businesses towards the necessity of change and innovation.

For further information please contact:
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Director of the Model Lean Manufacturing Plant
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CREATION OF SEED AND VENTURE FINANCING MECHANISMS FOR INNOVATION PROJECTS

This project is carried out by UrFU Innovation Infrastructure and is aimed at creating mechanisms for the development and integration into the international market of high-tech research results and Russian university and research institute proposals in the form of innovation projects, carried out by startups. It also stimulates the development of seed and venture financing in the Ural region.

One of these mechanisms is UrFU Innovation Development Fund, the first of its kind in Russia created with the University's support.

For the first time in an industrial region of Russia a university, in this case UrFU, is supporting the integration between government, science and business in the development of a regional innovation system. Our partners in this project are the USRF fund, the New Eurasia Foundation and the Government of the Sverdlovsk oblast. The possibility of attracting seed and venture financing for startups and launching them in the international market is promoting innovation activities at the Ural Branch of the Russian Academy of Sciences and other universities of the region.

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Aleksei Bezel
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INNOVATION CORRIDORS

UrFU Innovation Infrastructure is developing a network of international communications that allow us to establish partnerships with the leading innovation centers worldwide. As a result UrFU innovators have access to consulting services of experts that are familiar with the international market; to international investors and partners; to training in technology transfer centers in international universities and R&D centers of big companies.

The network is developed on the basis of the agreements and partner system established between UrFU and Technion Israel Institute of Technology, Tsinghua University and Fudan University. We are also working closely with universities and companies of South Corea. With the support of the USRF fund in the framework of the Eurica program we are working in close collaboration with universities of the USA. The support of the Russian Venture Company allows us to broaden our partner network.

For further information please contact:
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UrFU POSTDOC

In 2014 Ural Federal University launched the annual "UrFU PostDoc" contest to support research projects carried out by young promising international scientists at UrFU. The main objective of the contest is to select the most promising research projects developed at UrFU Competence Centers, as well as to attract talented young international scientists for the development of such projects.

The contest supports projects in the following fields: information technologies, energy and resource saving, flexible technologies and new materials, living systems and health. The contest is divided into two stages: project contest and post-doctoral candidate contest. The candidates have to be researchers under 35 years of age, that have defended a PhD thesis no longer than 7 years before the announcement of the contest, with a good knowledge of English and publications in journals indexed in Scopus and Web of Science databases.

Here are some of the postdocs currently working at UrFU:

Dr. Hélène Mondon

- PhD: Stalin's first «special settlers» and their fate in the Northern territory of the Soviet Union (1930–1948), Paris-Sorbonne University (Paris IV), France.
- Project at UrFU: Amnesty and Subsequent Fate of Special Settlers in Sverdlovsk Region (1946 – 1956).
- UrFU Department and Institute: International Center for Russian Studies, Institute of Humanities and Arts.

Dr. Paul Andrew Boley

- PhD: High-resolution studies of circumstellar material around massive young stellar objects, Heidelberg University, Germany.
- Project at UrFU: Observational studies of massive star formation and circumstellar material around young stellar objects.
- UrFU Department and Institute: Kourovka Astronomical Observatory, Institute of Natural Sciences.

Dr. Sougata Santra

- PhD: : Organocatalyst and Some Other Simple Reagents for Useful Transformations in Organic Synthesis, Visva-Bharati University, India.
- Project at UrFU: New Photoluminescent Materials.
- UrFU Department and Institute: Department of Organic Chemistry , Institute of Chemical Technological.

Dr. Mykhailo Sitiuk

- Ph.D: HIV Testing, Information Spillovers and Peer Behavior, University of Houston, Houston, USA.
- Project at UrFU: The Impact of HIV Testing on Sexual Behavior Among Couples and Singles.
- UrFU Department and Institute: Laboratory of international and regional economics, Higher School of Economics.

Dr. Yuliya Khrunyk

- PhD: The use of FLP-mediated recombination for the functional analysis of an effector gene family in the biotrophic smut fungus Ustilago maydis, Phillip University of Marburg, Germany.
- Project at Urfu: Bioavailability of titanium-based implants.
- UrFU Department and Institute: Center of Joint Use, Laboratory of Structural Methods of Analysis and Properties of Materials and Nanomaterials, Institute of Natural Sciences

UrFU: HOME FOR INTERNATIONAL RESEARCHERS

Over the last few years Ural Federal University has made a big effort to renovate and improve its research facilities. This combined with the skills and know-how of our scientists allows us to work on interdisciplinary and innovative research projects, on the one hand, and to offer new and exciting possibilities for international collaborations, on the other. This is one of the reasons why an ever growing number of international researchers are deciding to come and work at UrFU on a permanent basis.

Here are examples of the international researchers that have already become part of UrFU family:

Jun-ichi Nakashima

- UrFU Department and Institute: Astronomical Observatory, Institute of Natural Sciences.
- Currently working on: Astronomical research related to astrophysical masers and evolved stars. In particular, the pumping mechanism of SiO masers, maser sources in cold infrared sources, and evolved stars exhibiting non-spherical morphology.
- Previously: Research Assistant Professor at University of Hong Kong Department of Physics.

Why did you come to UrFU?

"Astronomical masers are one of the representative fields in the astronomical research at UrFU, and I was luckily approached by UrFU members when I was looking for a job. After a pilot collaboration with UrFU members, I believed that I could pursue my favorite research topics together with the excellent colleagues in UrFU. I have already spent 6 months at UrFU, and I have observed that UrFU and the Russian scientific community are developing rapidly. I will do my best to contribute to the development of UrFU together with my colleagues".

Majeti Narasimha Vara Prasad

- Professor in Environmental Biotechnology.
- Full Professor of the Department of Plant Sciences, University of Hyderabad, India.
- UrFU Department and Institute: Laboratory of Biotechnology, Institute of Natural Sciences.
- Previously: Professor Prasad's long-standing research focuses on the ecophysiological responses of plants to heavy metal toxicity; geobotanical and biogeochemical exploration; biomonitoring of heavy metal pollution; revegetation of metalliferous mine wastes; development of phytoremediation technology for metal-polluted soils and effluents.

EKATERINBURG: OUR CITY THROUGH THE EYES OF OUR INTERNATIONAL COLLEAGUES

"People's education, intelligence, and hospitality are the main assets of Ekaterinburg."

Alex Kinev,
president Creative Scientist inc.

"UrFU is located in Ekaterinburg, an only relatively old city in Russia, which is being significantly renovated as you can realize just walking along the city. I wish, however, that the old and historical significance of the city were better preserved for future generations.
Ekaterinburg is on the border between Europe and Asia. It profits of the old Russian/European culture and way of living, while I foresee a great potential and excellent possibilities to open new ways of interaction with Asian research centers. In short, I like the idea that Ekaterinburg is on a crossroads looking for future developments."

Manuel Vazquez Villalabeitia,
Institute of Materials Science of Madrid

"What I like most of Ekaterinburg is its cultural life, particularly the wide and high quality selection of classical music, ballet and jazz."

Gunnar Thorvaldsen,
Tromso University

"I like the general atmosphere of the Urals (I have visited several places during these last months) and above all, the spirit of the city of Ekaterinburg very much. Here people are genuine and sincere and at the same time, they have a great sense of humor and freedom of mind. They are proud of their region, proud of its peculiarities while being tolerant, friendly and open to others. This is a very valuable combination that explains why I am always happy to be here."

Marie-Pierre Rey,
University Paris I (Pantheon-Sorbonne)

"Above all I like the people in Ekaterinburg. During my last stay in Ekaterinburg, thanks to Prof Cherepanov I could meet many researchers and I was very impressed by their great motivation for research, their team spirit and the very friendly atmosphere in this laboratory. Of course, Ekaterinburg is a historic and highly cultural place, and I really appreciated the welcome by Prof Cherepanov and Prof Zuev who gave me a great opportunity to attend several concerts."

Bernard Raveau,
University of Caen

"It is a city with rich history and a modern look. Also, living and working in Australia for the last 20 years I have missed snow and the nature around Ekaterinburg is just fantastic."

Sergey Shabala,
University of Tasmania

"I was really surprised with the high level of cultural life in Ekaterinburg. There are over thirty museums in Ekaterinburg, including several museums of Ural minerals and jewelry which I personally enjoyed. In addition, several theaters and excellent choice of restaurants make life in Ekaterinburg really enjoyable."

Andrei Kholkin,
University of Aveiro

"I very much liked Ekaterinburg, which to me is an inseparable part of Europe in spirit and culture. I only wish could speak and read Russian to be able to enjoy the great Russian authors. I have a deep interest and hobby for collecting minerals and gem stones. The region here is very rich also in that resource."

Lars Gustav Hultman,
Linköping University

"We enjoyed the city, both in winter and summer, but above all the warm welcome of UrFU team and all the colleagues from the University."

Jean Jouzel,
Institut Pierre Simon Laplace

"Twenty years ago, I liked Ural Polytechnical Institute, the Institute of Metal Physics (Russian Academy) and Pel'mennaya in the middle of Lenin Avenue. Currently, I admire people in Ekaterinburg who hope to get back a normal cold winter and a normal warm summer."

Peter Galenko,
Friedrich-Schiller-Universität Jena

"My experience of Ekaterinburg is that of a warm in spite of its climate and open minded city, one that goes through a fascinating period of rapid development. I highly appreciate the openness of our discussions there is a degree of honesty in Ekaterinburg and of engagement, which I often miss in some of the more traditional European and Russian metropoles. And, last but certainly not least, there is excellent food and, to emphasize that once more, warm hospitality!"

Dr. Martin van Gelderen,
Lichtenberg Kolleg

"Ekaterinburg is – even in winter – a lively city with a good mixture of historic and new architecture. In summer I enjoy the many parks the city has to offer."

Dr. Hans Michael Wiesmeth,
Technical University Dresden

NOTES


УРАЛЬСКИЙ ПОЛИТЕХНИЧЕСКИЙ ИНСТИТУТ им. С.М.КИРОВА
УРАЛЬСКИЙ ФЕДЕРАЛЬНЫЙ УНИВЕРСИТЕТ
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